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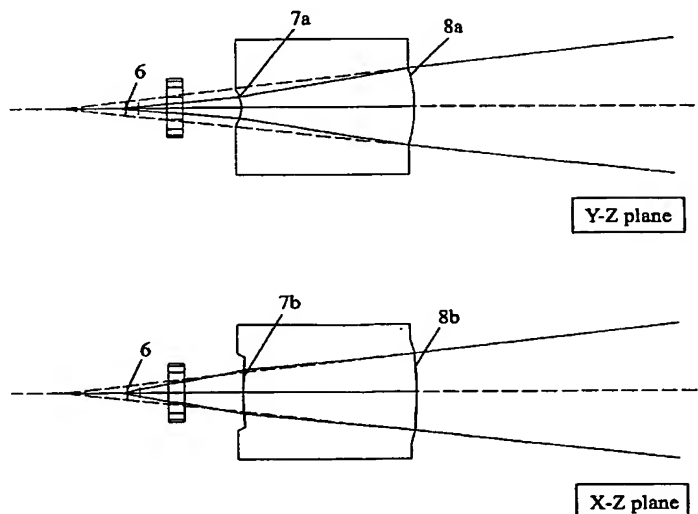
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(54) Title: BEAM-SHAPING OPTICAL ELEMENT AND METHOD AND PROGRAM FOR DESIGNING THE SAME



(57) Abstract: A beam-shaping optical element employing an aspherical profile is presented to minimize aberration. A beam-shaping optical element according to the present invention includes an entrance surface and the exit surface, both having a non-circular cross-section in any plane comprising the optical axis. A beam-shaping optical element according to one embodiment of the present invention, has the optical axis coinciding with the Z-axis of a three-axis rectangular XYZ system of coordinates, and the entrance surface and/or the exit surface represented by a mathematical equation comprising a term representing a non-rotationally symmetric aspherical profile, at least one correction term comprising a function of variable X alone and at least one correction term comprising a function of variable Y alone.